SEQUENCE LISTING

<110> Method for screening of filamentous fungus-specific antimicrobial agents and kit for the screening

<120> RIKEN

<130> PH-2421-PCT

<150> JP 2004-061273

<151> 2004-03-04

<160> 17

<170> PatentIn Ver. 2.1

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<213> Magnaporthe grisea

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<212> DNA

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                20   25   30

Ser Thr Tyr Val Gln Leu Pro Gly Pro Glu Ser Asp Glu Lys Lys Gln
                35   40   45

Leu Glu Arg Glu Leu Ala Ala Leu Val Ile Arg Val Gln Gln Leu Glu
      50   55   60

Thr Arg Ala Asn Ala Ala Pro Ala Thr Ile Phe Pro Asp Thr Pro Asn
65   70   75   80

Glu Thr Ala His Ser Leu Phe Gly Asp Asp Ser Ser Ser Pro Thr Ser
              85   90   95

Ser Ser Ser Gly Arg Glu Pro Lys Arg Leu Lys Ser Ala Ser Ser Thr
              100   105   110

Thr Arg Asn Gly Phe Thr Thr Asp Gly Arg Pro Ser Lys Leu Asn Ala
          115   120   125

Ile Thr Asp Glu Glu Leu Glu Gly Leu Arg Glu His Val Asp Gly Gln
      130   135   140

Ser Arg Leu Leu Asp Ser Gln Arg Ala Glu Leu Asp Gly Val Asn Ala
145   150   155   160

Gln Leu Leu Glu Gln Lys Gln Leu Gln Glu Arg Ala Leu Ala Ile Ile
              165   170   175

Glu Gln Glu Arg Val Ala Thr Leu Glu Arg Glu Leu Trp Lys His Gln
              180   185   190

Lys Ala Asn Glu Ala Phe Gln Lys Ala Leu Arg Glu Ile Gly Ser Ile
              195   200   205

Val Thr Ala Ala Ala Arg Gly Asp Leu Ser Lys Arg Val Lys Ile Asn
    210   215   220

Pro Ile Glu Met Asp Pro Glu Ile Thr Thr Phe Lys Arg Thr Met Asn
225   230   235   240

Ala Met Met Asp Gln Leu Gly Val Phe Ser Ser Glu Val Ser Arg Val
            245   250   255

Ala Arg Glu Val Gly Thr Glu Gly Ile Leu Gly Gly Gln Ala Gln Ile
            260   265   270

Glu Gly Val Asp Gly Thr Trp Lys Glu Leu Thr Asp Asn Val Asn Val
            275   280   285

Met Ala Gln Asn Leu Thr Asp Gln Val Arg Glu Ile Ala Ser Val Thr
    290   295   300

Thr Ala Val Ala His Gly Asp Leu Thr Gln Lys Ile Glu Ser Ala Ala
305   310   315   320

Lys Gly Glu Ile Leu Gln Leu Gln Gln Thr Ile Asn Thr Met Val Asp
            325   330   335

Gln Leu Arg Thr Phe Ala Ser Glu Val Thr Arg Val Ala Arg Asp Val
            340   345   350

Gly Thr Glu Gly Met Leu Gly Gly Gln Ala Asp Val Glu Gly Val Lys
            355   360   365

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Gly Met Trp Asn Glu Leu Thr Val Asn Val Asn Ala Met Ala Asn Asn
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Leu Thr Thr Gln Val Arg Asp Ile Ile Asn Val Thr Thr Ala Val Ala
385   390   395   400

Lys Gly Asp Leu Thr Gln Lys Val Gln Ala Glu Cys Arg Gly Glu Ile
                405   410   415

Phe Glu Leu Lys Asn Thr Ile Asn Ser Met Val Asp Gln Leu Gln Gln
            420   425   430

Phe Ala Arg Glu Val Thr Lys Ile Ala Arg Glu Val Gly Thr Glu Gly
            435   440   445

Arg Leu Gly Gly Gln Ala Thr Val His Asp Val Gln Gly Thr Trp Arg
        450   455   460

Asp Leu Thr Glu Asn Val Asn Gly Met Ala Met Asn Leu Thr Thr Gln
465   470   475   480

Val Arg Glu Ile Ala Asn Val Thr Ser Ala Val Ala Ala Gly Asp Leu
                485   490   495

Ser Lys Lys Ile Arg Val Glu Val Lys Gly Glu Ile Leu Asp Leu Lys
            500   505   510

Asn Thr Ile Asn Thr Met Val Asp Arg Leu Gly Thr Phe Ala Phe Glu
            515   520   525

Val Ser Lys Val Ala Arg Ala Val Gly Thr Asp Gly Thr Leu Gly Gly
    530   535   540

Gln Ala Gln Val Glu Asn Val Glu Gly Lys Trp Lys Asp Leu Thr Glu
545   550   555   560

Asn Val Asn Thr Met Ala Ser Asn Leu Thr Ser Gln Val Arg Gly Ile
                565   570   575

Ser Thr Val Thr Gln Ala Ile Ala Asn Gly Asp Met Ser Arg Lys Ile
                580   585   590

Asp Val Glu Ala Lys Gly Glu Ile Leu Ile Leu Lys Glu Thr Ile Asn
                595   600   605

Asn Met Val Asp Arg Leu Ser Ile Phe Cys Asn Glu Val Gln Arg Val
        610   615   620

Ala Lys Asp Val Gly Val Asp Gly Ile Met Gly Gly Gln Ala Asp Val
625   630   635   640

Ala Gly Leu Lys Gly Arg Trp Lys Glu Ile Thr Thr Asp Val Asn Thr
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Asn Ala Ala Thr Asp Gly Asp Phe Thr Lys Leu Val Glu Val Glu Ala
                675   680   685

Ser Gly Glu Met Asp Glu Leu Lys Arg Lys Ile Asn Gln Met Val Tyr
    690   695   700

Asn Leu Arg Asp Ser Ile Gln Arg Asn Thr Gln Ala Arg Glu Ala Ala
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Glu Leu Ala Asn Lys Thr Lys Ser Glu Phe Leu Ala Asn Met Ser His
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            740   745   750

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            755   760   765

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Leu Ser Lys Ile Glu Ala Lys Arg Met Val Ile Glu Glu Ile Pro Tyr
785   790   795   800

Thr Leu Arg Gly Thr Val Phe Asn Ala Leu Lys Thr Leu Ala Val Lys
                805   810   815

Ala Asn Asp Lys Phe Leu Asp Leu Thr Tyr Arg Val Asp Ser Ser Val
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Pro Asp His Val Ile Gly Asp Ser Phe Arg Leu Arg Gln Ile Ile Leu
            835   840   845

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Asn Leu Val Gly Asn Ala Ile Lys Phe Thr Glu His Gly Glu Val Ser
    850   855   860

Leu Thr Ile Gln Lys Gly Asn Asp Val Thr Cys Leu Pro Asn Glu Tyr
865   870   875   880

Met Ile Glu Phe Val Val Ser Asp Thr Gly Ile Gly Ile Pro Thr Asp
            885   890   895

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            900   905   910

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            915   920   925

Leu Val Asn Leu Met Gly Gly Asp Val Trp Val Lys Ser Gln Tyr Gly
    930   935   940

Lys Gly Ser Ser Phe Tyr Phe Thr Cys Arg Val Arg Leu Ala Asp Val
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Asp Ile Ser Leu Ile Arg Lys Gln Leu Lys Pro Tyr Lys Gly His Gln
            965   970   975

Val Leu Phe Ile Asp Lys Gly Lys Thr Gly His Gly Pro Glu Val Gly
            980   985   990

Gln Met Leu Gly Gln Leu Gly Leu Val Pro Ile Val Leu Glu Ser Glu
            995   1000   1005

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Gln Asn His Thr Leu Thr Arg   Val Arg Gly Lys Glu Cys Pro Tyr
    1010   1015   1020

Asp Val Ile Val Val Asp Ser   Ile Asp Thr Ala Arg Arg Leu Arg
    1025   1030   1035

Gly Ile Asp Asp Phe Lys Tyr   Leu Pro Ile Val Leu Leu Ala Pro
    1040   1045   1050

Thr Val His Val Ser Leu Lys   Ser Cys Leu Asp Leu Gly Ile Thr
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Ser Tyr Met Thr Met Pro Cys   Lys Leu Ile Asp Leu Gly Asn Gly
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Met Val Pro Ala Leu Glu Asn   Arg Ala Thr Pro Ser Leu Ser Asp
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Asn Gln Arg Leu Ala Val Lys   Ile Leu Glu Lys Tyr Asn His Val
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Val Thr Val Val Ser Asn Gly   Ala Glu Ala Leu Glu Ala Val Lys
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Asp Asn Lys Tyr Asp Val Ile   Leu Met Asp Val Gln Met Pro Val
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Met Gly Gly Phe Glu Ala Thr   Ala Lys Ile Arg Glu   Tyr Glu Arg
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Ser Leu Gly Thr Gln Arg Thr   Pro Ile Ile Ala Leu   Thr Ala His
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Ala Met Met Gly Asp Arg Glu   Lys Cys Ile Glu Ala   Gln Met Asp
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Glu Tyr Leu Ser Lys Pro Leu   Gln Gln Asn His Leu   Ile Gln Thr
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Ile Leu Lys Cys Ala Thr Leu   Gly Gly Ala Leu Leu   Glu Gln Asn
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Arg Glu Arg Glu Leu Glu Leu   Ala Arg His Ala Glu   His Lys Gly
    1235   1240   1245

Gly Leu Ser Thr Asp Pro Ala   Arg Ala Ser Ser Val   Met Arg Pro
    1250   1255   1260

Pro Leu His His Arg Pro Val   Thr Thr Ala Glu Ser   Leu Ser Gly
    1265   1270   1275

Gly Ala Glu Ser Pro Ser Leu   Met Ala Asn Asp Gly   Glu Asp Pro
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<212> PRT

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            20   25   30

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            35   40   45

Glu Arg Glu Leu Ser Ala Leu Val Val Arg Ile Glu Gln Leu Glu Thr
            50   55   60

Ala Ala Ile Ala Ala Ser Pro Pro Ala Met Pro Asp Thr Pro Asn Ala
65   70   75   80

Pro Thr Asp Ala Leu Phe Ser Asn Gly Thr Leu Ser Pro Ser Ser Glu
            85   90   95

Thr Pro Asp Ala Arg Tyr Pro Ala Pro Leu Pro Arg Asn Gly Phe Ile
            100   105   110

Asp Glu Ala Leu Glu Gly Leu Arg Glu His Val Asp Asp Gln Ser Lys
            115   120   125

Leu Leu Asp Ser Gln Arg Gln Glu Leu Ala Gly Val Asn Ala Gln Leu
        130   135   140

Ile Glu Gln Lys Gln Leu Gln Glu Lys Ala Leu Ala Ile Ile Glu Gln
145   150   155   160

Glu Arg Val Ala Thr Leu Glu Arg Glu Leu Trp Lys His Gln Lys Ala
                165   170   175

Asn Glu Ala Phe Gln Lys Ala Leu Arg Glu Ile Gly Glu Ile Val Thr
                180   185   190

Ala Val Ala Arg Gly Asp Leu Ser Lys Lys Val Arg Met Asn Ser Val
                195   200   205

Glu Met Asp Pro Glu Ile Thr Thr Phe Lys Arg Thr Ile Asn Thr Met
        210   215   220

Met Asp Gln Leu Gln Val Phe Ser Ser Glu Val Ser Arg Val Ala Arg
225   230   235   240

Glu Val Gly Thr Glu Gly Ile Leu Gly Gly Gln Ala Gln Ile Glu Gly
                245   250   255

Val Asp Gly Thr Trp Lys Glu Leu Thr Asp Asn Val Asn Val Met Ala
                260   265   270

Gln Asn Leu Thr Asp Gln Val Arg Glu Ile Ala Ser Val Thr Thr Ala
        275   280   285

Val Ala His Gly Asp Leu Thr Lys Lys Ile Glu Arg Pro Ala Lys Gly
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Glu Ile Leu Gln Leu Gln Gln Thr Ile Asn Thr Met Val Asp Gln Leu
305   310   315   320

Arg Thr Phe Ala Ser Glu Val Thr Arg Val Ala Arg Asp Val Gly Thr
                325   330   335

Glu Gly Ile Leu Gly Gly Gln Ala Asp Val Glu Gly Val Gln Gly Met
                340   345   350

Trp Asn Glu Leu Thr Val Asn Val Asn Ala Met Ala Asn Asn Leu Thr
                355   360   365

Thr Gln Val Arg Asp Ile Ile Lys Val Thr Thr Ala Val Ala Lys Gly
        370   375   380

Asp Leu Thr Gln Lys Val Gln Ala Glu Cys Arg Gly Glu Ile Phe Glu
385   390   395   400

Leu Lys Lys Thr Ile Asn Ser Met Val Asp Gln Leu Gln Gln Phe Ala
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Arg Glu Val Thr Lys Ile Ala Arg Glu Val Gly Thr Glu Gly Arg Leu
                420   425   430

Gly Gly Gln Ala Thr Val His Asp Val Gln Gly Thr Trp Arg Asp Leu
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Glu Ile Ala Lys Val Thr Thr Ala Val Ala Lys Gly Asp Leu Thr Lys
465   470   475   480

Lys Ile Gly Val Glu Val Gln Gly Glu Ile Leu Asp Leu Lys Asn Thr
                485   490   495

Ile Asn Thr Met Val Asp Arg Leu Gly Thr Phe Ala Phe Glu Val Ser
            500   505   510

Lys Val Ala Arg Glu Val Gly Thr Asp Gly Thr Leu Gly Gly Gln Ala
            515   520   525

Gln Val Asp Asn Val Glu Gly Lys Trp Lys Asp Leu Thr Glu Asn Val
        530   535   540

Asn Thr Met Ala Ser Asn Leu Thr Ser Gln Val Arg Gly Ile Ser Thr
545   550   555   560

Val Thr Gln Ala Ile Ala Asn Gly Asp Met Ser Arg Lys Ile Glu Val
                565   570   575

Glu Ala Lys Gly Glu Ile Leu Ile Leu Lys Glu Thr Ile Asn Asn Met
            580   585   590

Val Asp Arg Leu Ser Ile Phe Cys Asn Glu Val Gln Arg Val Ala Lys
            595   600   605

Asp Val Gly Val Asp Gly Ile Met Gly Gly Gln Ala Asp Val Ala Gly
    610   615   620

Leu Lys Gly Arg Trp Lys Glu Ile Thr Thr Asp Val Asn Thr Met Ala
625   630   635   640

Asn Asn Leu Thr Ala Gln Val Arg Ala Phe Gly Asp Ile Thr Asn Ala
            645   650   655

Ala Thr Asp Gly Asp Phe Thr Lys Leu Val Glu Val Glu Ala Ser Gly
            660   665   670

Glu Met Asp Glu Leu Lys Lys Lys Ile Asn Gln Met Val Tyr Asn Leu
            675   680   685

Arg Asp Ser Ile Gln Arg Asn Thr Gln Ala Arg Glu Ala Ala Glu Leu
            690   695   700

Ala Asn Lys Thr Lys Ser Glu Phe Leu Ala Asn Met Ser His Glu Ile
705   710   715   720

Arg Thr Pro Met Asn Gly Ile Ile Gly Met Thr Gln Leu Thr Leu Asp
                725   730   735

Thr Asp Leu Thr Gln Tyr Gln Arg Glu Met Leu Asn Ile Val Asn Ser
            740   745   750

Leu Ala Asn Ser Leu Leu Thr Ile Ile Asp Asp Ile Leu Asp Leu Ser
            755   760   765

Lys Ile Glu Ala Arg Arg Met Val Ile Glu Glu Ile Pro Tyr Thr Leu
    770   775   780

Arg Gly Thr Val Phe Asn Ala Leu Lys Thr Leu Ala Val Lys Glu Thr
785   790   795   800

Glu Lys Phe Leu Asp Leu Thr Tyr Arg Val Asp His Ser Val Pro Asp
            805   810   815

His Val Val Gly Asp Ser Phe Arg Leu Arg Gln Ile Ile Leu Asn Leu
            820   825   830

Val Gly Asn Ala Ile Lys Phe Thr Glu His Gly Glu Val Ser Leu Thr
            835   840   845

Ile Gln Lys Ala Ser Ser Val Gln Cys Ser Thr Glu Glu Tyr Ala Ile
    850   855   860

Glu Phe Val Val Ser Asp Thr Gly Ile Gly Ile Pro Ala Asp Lys Leu
865   870   875   880

Asp Leu Ile Phe Asp Thr Phe Gln Gln Ala Asp Gly Ser Met Thr Arg
            885   890   895

Lys Phe Gly Gly Thr Gly Leu Gly Leu Ser Ile Ser Lys Arg Leu Val
            900   905   910

Asn Leu Met Gly Gly Asp Val Trp Val Lys Ser Glu Tyr Gly Lys Gly
            915   920   925

Ser Lys Phe Phe Phe Thr Cys Val Val Arg Leu Ala Asn Asp Asp Ile
    930   935   940

Ser Leu Ile Ala Lys Gln Leu Asn Pro Tyr Lys Ser His Gln Val Leu
945   950   955   960

Phe Ile Asp Lys Gly Arg Thr Gly His Gly Pro Glu Ile Ala Lys Met
                965   970   975

Leu His Gly Leu Gly Leu Val Pro Ile Val Val Asp Ser Glu Arg Asn
                980   985   990

Pro Ala Leu Glu Lys Ala Arg Ala Ala Gly Gln Ala Pro Tyr Asp Val
                995   1000   1005

Ile Ile Val Asp Ser Ile Glu Asp Ala Arg Arg Leu Arg Ser Val Asp
    1010   1015   1020

Asp Phe Lys Tyr Leu Pro Ile Val Leu Leu Ala Pro Val Val His Val
1025   1030   1035   1040

Ser Leu Lys Ser Cys Leu Asp Leu Gly Ile Thr Ser Tyr Met Thr Thr
                1045   1050   1055

Pro Cys Gln Leu Ile Asp Leu Gly Asn Gly Met Val Pro Ala Leu Glu
                1060   1065   1070

Asn Arg Ala Thr Pro Ser Leu Ala Asp Asn Thr Lys Ser Phe Glu Ile
                1075   1080   1085

Leu Leu Ala Glu Asp Asn Thr Val Asn Gln Arg Leu Ala Val Lys Ile
　　1090　　　　　　　1095　　　　　　　1100

Leu Glu Lys Tyr His His Val Val Thr Val Val Gly Asn Gly Glu Glu
1105　　　　　　　1110　　　　　　　1115　　　　　　　1120

Ala Val Glu Ala Val Lys Arg Lys Lys Phe Asp Val Ile Leu Met Asp
　　　　　　　1125　　　　　　　1130　　　　　　　1135

Val Gln Met Pro Ile Met Gly Gly Phe Glu Ala Thr Ala Lys Ile Arg
　　　　　　　1140　　　　　　　1145　　　　　　　1150

Glu Tyr Glu Arg Ser Leu Gly Ser Gln Arg Thr Pro Ile Ile Ala Leu
　　　　　1155　　　　　　　1160　　　　　　　1165

Thr Ala His Ala Met Met Gly Asp Arg Glu Lys Cys Ile Gln Ala Gln
　　1170　　　　　　　1175　　　　　　　1180

Met Asp Glu Tyr Leu Ser Lys Pro Leu Gln Gln Asn His Leu Ile Gln
1185　　　　　　　1190　　　　　　　1195　　　　　　　1200

Thr Ile Leu Lys Cys Ala Thr Leu Gly Gly Gln Leu Leu Glu Lys Asn
　　　　　　　1205　　　　　　　1210　　　　　　　1215

Arg Glu Arg Glu Leu Thr Arg Ala Ala Asp Ala Val Thr Gly Gly Arg
　　　　　1220　　　　　　　1225　　　　　　　1230

Arg Asp Asn Gly Met Tyr Ser Ala Ser Gln Ala Ala Gln His Ala Ala
　　　　1235　　　　　　　1240　　　　　　　1245

Leu Arg Pro Pro Leu Ala Thr Arg Gly Leu Thr Ala Ala Asp Ser Leu
    1250'   1255   1260

Val Ser Gly Leu Glu Ser Pro Ser Ile Val Thr Ala Asp Lys Glu Asp
1265   1270   1275   1280

Pro Leu Ser Arg Ala Arg Ala Ser Leu Ser Glu Pro Asn Ile His Lys
        1285   1290   1295

Ala Ser